



August 14, 1997

Mr. Michael E. Bellot  
Remedial Project Manager  
U.S. EPA - Region 5  
77 West Jackson Boulevard, SR-6J  
Chicago, Illinois 60604-3590

Re: Pre-Construction Investigation Addendum  
Blackwell Landfill NPL Site  
DuPage County, Illinois



Dear Mr. Bellot:

Montgomery Watson has completed a pre-construction investigation at the Blackwell Landfill NPL Site in order to gather additional site information prior to the initiation of Cap Repairs. The field investigation was conducted on June 19 and 20, 1997, with the specific objectives of:

- 1) Positively identifying the boundaries of suitable landfill cover (i.e., minimum of two feet of suitable soil material) in the four cap repair areas previously identified in the June 1997 Cap Repair 100% Design Report; and
- 2) Identifying the subsurface soil conditions at the locations of drip leg DL01 and lift station LS01 proposed in the May 1997 Leachate Collection System Expedited Final Design Report.

Cap Repair Areas:

The pre-construction investigation for the identification of suitable landfill cover boundaries was conducted along the approximate limits of suitable cover defined in the Cap Repair 100% Design Report. A total of 45 shallow boreholes were drilled at approximately 100-foot intervals along the approximate limits of suitable cover. The boreholes were drilled using hollow-stem augers to depths ranging from 18 to 48 inches below ground surface. Continuous soil samples were collected using a split-spoon sampler, and the recovered soil samples were visually inspected and logged. The location and ground surface elevation of each soil boring was established by a licensed surveyor relative to the local Blackwell grid system and Mean Sea Level (MSL). The boreholes were labeled CB-1 through CB-23 as a primary designation, and 'A' through 'E' as a secondary designation. The locations of the soil borings are shown on the attached Figure 1, with the identified soil profiles summarized in Table 1.

Soil cuttings generated during the investigation were compacted back into their respective borings. Landfill refuse, where encountered, was compacted back into its respective boring, and the remaining borehole was backfilled with bentonite chips.

Based upon the identified soil profile in these additional soil boring, we have redefined the limits of suitable landfill cover, as shown in Figure 1.

Drip Leg DL01 and Lift Station LS01:

The pre-construction investigation for the identification of subsurface soil conditions near drip leg DL01 and lift station LS01 was conducted on the south side of the Blackwell Landfill near existing manhole MH-20. Two soil borings, designated CB24 and CB25 were drilled with hollow stem augers to a depth of 20 feet below ground surface. Continuous soil samples were collected using a split-spoon sampler, and the recovered soil samples were visually inspected and logged. The location and ground surface elevation of each soil boring was established by a licensed surveyor relative to the local Blackwell grid system and Mean Sea Level (MSL). The locations of the soil borings are shown on the attached Figure 1, with the identified soil profile summarized on the attached Logs.

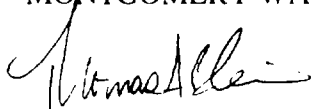
Soil cuttings generated during the pre-construction investigation were compacted back into their respective borings.

The two soil borings CB24 and CB25 identified mostly clay materials, with some sand and gravel layers, from ground surface to a depth of 16 and 14 feet, respectively. Sand and gravel were identified below the clay. The clay soil conditions above a depth of 14 to 16 feet are considered suitable for installation of drip leg DL01 and lift station LS01. However, lift station LS01 does require minor redesign and field fitting to keep the lift station fully within the identified clay layer and above the underlying sand and gravel. This redesign and field fitting was discussed with the U.S. Environmental Protection Agency during the July 15, 1997 Pre-Construction Meeting, and the U.S. Environmental Protection Agency agreed that the redesign and field fitting of lift station LS01 could be reflected in the as-built drawings for the project.

If you have questions or comments regarding this investigation, please contact Thomas Blair or Walter Buettner at (630) 691-5000.

Sincerely,

MONTGOMERY WATSON



Thomas A. Blair, P.E.  
Project Engineer



Walter G. Buettner, P.E.  
Project Manager

Enclosures: Soil Boring Logs  
Table 1 Summary of Cap Repair Borings  
Figure 1 Areas of Suitable Cover Materials

cc: Mr. Joseph Benedict, Forest Preserve District  
Mr. Jerry Hartwig, Forest Preserve District  
Mr. Rick Lanham, IEPA  
Mr. Kostas Dovantzis, Tetra Tech EM, Inc.  
Mr. Kurt Lindland, U.S. EPA Assistant Regional Counsel

TAB/dlp/WGB/map/PJV  
J:\1252\008\00801c40.doc  
1252008 050101

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**LOG OF TEST BORING**

Project Blackwell Landfill - NPL Site

Location DuPage County, Illinois

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **CB-24**  
Job No. 1252008.04090053  
Sheet 1 of 2  
Surface Elevation \_\_\_\_\_  
Northing: \_\_\_\_\_  
Easting: \_\_\_\_\_

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	24	M			TOPSOIL			
					Gray CLAY, Some Gravel (CL)			
2	14	M			Gray to Black CLAY, Red Stain with Some Gravel (CL) Hard, Gray CLAY, Traces of Gravel (CL)			
3	24	M			Black and Gray CLAY, Traces of Gravel (CL)			
				5				
4	14	M			Hard, Dark Gray CLAY (CL) Dark Black CLAY, Some Gravel (CL)			
5	19	M			Hard, Gray CLAY (CL) Brown and Black GRAVEL (GP)			
				10				
6	4	M						
7	24	M			Brown to Gray CLAY, Traces of Gravel (CL)			
8	11	M						
				15				

**WATER LEVEL OBSERVATIONS**

While Drilling    ft. Upon Completion of Drilling    ft.  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

**GENERAL NOTES**

Start 6/20/97 End 6/20/97  
Driller TSC Chief David Rig  
Logger BG Editor \_\_\_\_\_  
Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

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**LOG OF TEST BORING**

Project Blackwell Landfill - NPL Site

Location DuPage County, Illinois

Boring No. **CB-24**  
 Job No. 1252008.04090053  
 Sheet 2 of 2  
 Surface Elevation \_\_\_\_\_  
 Northing: \_\_\_\_\_  
 Easting: \_\_\_\_\_

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
9	8	M			Brown GRAVEL (GP)			
10	14	W			Black GRAVEL (GP)			
					Dry, White GRAVEL (GP)			
				20	End of Boring at 20.0 ft			
				25				
				30				

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**LOG OF TEST BORING**

Project Blackwell Landfill - NPL Site

Location DuPage County, Illinois

Boring No. **CB-25**  
Job No. 1252008.04090053  
Sheet 1 of 2  
Surface Elevation \_\_\_\_\_  
Northing: \_\_\_\_\_  
Easting: \_\_\_\_\_

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	20	M			TOPSOIL			
					Gray CLAY, Traces of Gravel (CL)			
2	22	M						
3	8	M						
4	20	M			Brown CLAY, Some Gravel (CL)			
					Gray to Dark Gray CLAY, Some Gravel (CL)			
5	20	M			Clayey SAND, Some Gravel (SC)			
					Hard, Brown CLAY (CL)			
					Gray to Dark Gray, Clayey GRAVEL (GC)			
6	18	M			Gray to Dark Gray CLAY, Some Gravel (CL)			
7	24	M			Gray CLAY (CL)			
8	10	M			Brown SAND, Some Gravel (SP)			

**WATER LEVEL OBSERVATIONS**

While Drilling    ft. Upon Completion of Drilling    ft.  
Time After Drilling \_\_\_\_\_  
Depth to Water \_\_\_\_\_  
Depth to Cave in \_\_\_\_\_

**GENERAL NOTES**

Start 6/20/97 End 6/20/97  
Driller TSC Chief David Rig  
Logger BG Editor \_\_\_\_\_  
Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY  
WATSON**



**LOG OF TEST BORING**

Project Blackwell Landfill - NPL Site

Location DuPage County, Illinois

Boring No. **CB-25**  
 Job No. 1252008.04090053  
 Sheet 2 of 2  
 Surface Elevation \_\_\_\_\_  
 Northing: \_\_\_\_\_  
 Easting: \_\_\_\_\_

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
9	12	W			Gray to Dark Gray GRAVEL (GC)			
10	8	W						
				20	End of Boring at 20.0 ft			
				25				
				30				

**Table 1**  
**Summary of Cap Repair Borings, Pre-Construction Investigation**  
**Blackwell Landfill NPL Site**

Cap Repair Area	Primary Boring Designation	Secondary Boring Designation	Visual Soil Classification
4	CB-1 Date 6/19/97	A	0-6" <b>TOPSOIL</b> 6-18" Hard Gray to Brown Gravelly <b>CLAY</b> 18-30" Hard Gray <b>CLAY</b> 30" <b>MUNICIPAL REFUSE</b> ; Plastic
		B Location from A: 20' S	0-6" Brown <b>CLAY</b> 6-10" Gravelly <b>SAND</b> 10-18" Gray <b>CLAY</b> 18-36" Gray <b>CLAY</b>
	CB-2 Date 6/19/97	A	0-12" <b>TOPSOIL</b> 12-16" Gray Sandy <b>GRAVEL</b> 16-24" <b>GRAVEL</b>
		B Location from A: 20' E	0-6" Black Clayey <b>TOPSOIL</b> 6-18" Hard Brown to Gray <b>CLAY</b> ; Some Gravel 18-30" Hard Gray <b>CLAY</b> 30-36" <b>GRAVEL</b> 36" <b>CONCRETE</b>
	CB-3 Date 6/19/97	A	0-24" Hard Black to Brown <b>CLAY</b>
		B Location from A: 30' W	0-4" <b>TOPSOIL</b> 4-18" Hard Gray to Brown <b>CLAY</b> ; Traces of Gravel 18-26" Soft Gray <b>CLAY</b> 26-32" Gray <b>CLAY</b> 32-48" Gray Gravelly <b>SAND</b>
	CB-4 Date 6/19/97	A	0-4" <b>TOPSOIL</b> 4-21" Hard Gray <b>CLAY</b> ; Some Gravel 21-24" <b>GRAVEL</b> 24" Refusal on Rock
		B Location from A: 40' E	0-4" <b>TOPSOIL</b> 4-38" Gray to Brown Stiff <b>CLAY</b> ; Some Gravel
	CB-5 Date 6/19/97	A	0-10" <b>TOPSOIL</b> 10-24" Brown Sandy <b>CLAY</b> ; Some Gravel 24-36" <b>GRAVEL</b>
		B Location from A: 20' E/SE	0-6" <b>TOPSOIL</b> 6-24" Brown Sandy <b>CLAY</b> ; Traces of Gravel 24-42" Brown Sandy <b>CLAY</b> ; Some Gravel
	CB-6 Date 6/19/97	A	0-6" <b>TOPSOIL</b> 6-12" Sandy <b>CLAY</b> ; Some Gravel 12-24" Clayey <b>GRAVEL</b>
		B Location from A: 20' S/SE	0-6" <b>TOPSOIL</b> 6-18" Brown to Gray Sandy <b>CLAY</b> ; Some gravel 18-28" Brown to Gray <b>CLAY</b> ; Some Gravel 28"-36" Sandy <b>CLAY</b> 36-48" <b>GRAVEL</b> 48" <b>MUNICIPAL REFUSE</b> ; Plastic

**Table 1**  
**Summary of Cap Repair Borings, Pre-Construction Investigation**  
**Blackwell Landfill NPL Site**

Cap Repair Area	Primary Boring Designation	Secondary Boring Designation	Visual Soil Classification
	CB-7 Date 6/19/97	A	0-8" Hard Brown CLAY; Traces of Gravel 8-24" Sandy GRAVEL; Cobbles 24-36" Sandy GRAVEL 36-42" Brown CLAY
		B Location from A: 15' S/SE	0-4" TOPSOIL 4-18" Mottled Brown and Gray Clayey SAND; Some Gravel 18-24" Clayey SAND; Some Gravel
		C Location from A: 30' S/SE	0-4" TOPSOIL 4-18" GRAVEL and STONE
		D Location from A: 60' S/SE	0-4" TOPSOIL 4-12" Hard Brown CLAY 12-18" GRAVEL 18-36" Sandy GRAVEL
		E Location from A: 80' S/SE	0-4" TOPSOIL 4-24" Hard Gray CLAY 24-30" Mottled Brown-Gray CLAY 30-36" Sandy GRAVEL
3	CB-8 Date 6/19/97	A	0-2" TOPSOIL 2-18" Brown to Gray CLAY; Trace of Gravel 18-30" Hard Gray CLAY; Some Gravel
		B Location from A: 20' W	0-4" TOPSOIL 4-8" Brown CLAY 8-24" Hard Gray CLAY; Some Gravel
	CB-9 Date 6/19/97	A	0-4" TOPSOIL 4-12" Hard Gray CLAY; Traces of Gravel 12-18" Black CLAY; Traces of Gravel 18-36" Hard Gray CLAY; Some Gravel
	CB-10 Date 6/19/97	A	0-6" TOPSOIL 6-18" Hard Gray CLAY; Traces of Gravel 18-20" Gray CLAY 20" MUNICIPAL REFUSE; Plastic, Metal, Wood
		B Location from A: 20' W/NW	0-4" TOPSOIL 4-10" Gray CLAY; Some Medium Gravel 10-12" Black CLAY 12-14" GRAVEL 14-18" Brown CLAY 18-24" GRAVEL
		C Location from A: 20.5' W/NW	0-4" TOPSOIL 4-18" Brown to Black CLAY; Medium Gravel 18-36" Gray CLAY; Traces of Gravel



**Table 1**  
**Summary of Cap Repair Borings, Pre-Construction Investigation**  
**Blackwell Landfill NPL Site**

Cap Repair Area	Primary Boring Designation	Secondary Boring Designation	Visual Soil Classification
2	CB-11 Date 6/19/97	A	0-6" TOPSOIL 6-24" Sandy GRAVEL
		B Location from A: 20' SE	0-4" TOPSOIL 6-12" Dark Gray CLAY 12-24" Brown and Gray SAND; Some Gravel 24-40" Gray GRAVEL 40-48" Gray CLAY
		C Location from A: 60' SE	0-4" TOPSOIL 4-18" Sandy GRAVEL 18-36" Sandy GRAVEL
	CB-12 Date 6/19/97	A	0-6" TOPSOIL 6-12" Soft Gray CLAY 12-36" Hard Gray CLAY; Some Gravel
	CB-13 Date 6/20/97	A	0-6" TOPSOIL 6-18" Hard Gray CLAY 18-24" Sandy CLAY 24-36" Hard Gray CLAY
		B Location from A: 20' N/NE	0-4" TOPSOIL 4-20" Hard Gray CLAY; Some Gravel 20-32" Hard Gray CLAY; Some Gravel
	CB-14 Date 6/20/97	A	0-2" TOPSOIL 2-12" Hard Brown CLAY 12-18" Soft Brown CLAY; Some Gravel 18" Refusal
		B Location from A: 1' S	0-2" TOPSOIL 2-12" Hard Gray CLAY; Some Gravel 12-32" Hard Gray CLAY; Some Gravel
	CB-15 Date 6/20/97	A	0-2" TOPSOIL 2-28" Hard Gray to Black CLAY 28-32" Moist Gravelly SAND 32-40" Hard Gray CLAY
	CB-16 Date 6/20/97	A	0-4" TOPSOIL 4" Poor recovery due to rock
		B Location from A: 1' S	0-4" TOPSOIL 4-20" Hard Gray CLAY; Some Gravel 20-36" Hard Gray CLAY; Some Gravel
	CB-17 Date 6/20/97	A	0-6" TOPSOIL 6-12" Sandy CLAY 12-14" GRAVEL 14-18" Sandy CLAY Refusal
		B Location from A: 1' S	0-8" TOPSOIL 8-18" Sandy CLAY, Some Gravel 18-24" Hard Gray CLAY 24-36" Gray Clayey SAND

**Table 1**  
**Summary of Cap Repair Borings, Pre-Construction Investigation**  
**Blackwell Landfill NPL Site**

Cap Repair Area	Primary Boring Designation	Secondary Boring Designation	Visual Soil Classification
	CB-18 Date 6/20/97	A	0-4" TOPSOIL 4-12" Gray CLAY 12-16" Brown Clayey SAND 20-22" GRAVEL 22-30" Gray GRAVEL
	CB-19 Date 6/20/97	A	0-6" TOPSOIL 6-24" Gray CLAY 24-32" Gray Sandy CLAY 32-36" Gray Sandy CLAY, Some Gravel
	CB-20 Date Taken: 6/20/97	A	0-4" TOPSOIL 4-30" Hard Gray CLAY 30-42" Brown SAND and GRAVEL
1	CB-21 Date 6/20/97	A	0-10" TOPSOIL 10-24" Brown to Black CLAY; Some Gravel 24-26" Brown SAND 26-28" ROCK 28-32" Gray CLAY
		B Location from A: 1' N	0-12" TOPSOIL 12-14" GRAVEL 14-18" Clayey GRAVEL 18-30" Gray CLAY; Some Gravel and Cobbles
		C Location from A: 20' NE	0-12" TOPSOIL 12-14" GRAVEL 14-24" Sandy CLAY; Some Gravel
		D Location from C: 1' N	0-12" TOPSOIL 12-18" Gravelly CLAY 18-27" Hard Gray CLAY 27-36" STONE and GRAVEL
		E Location from A:	0-12" TOPSOIL 12-16" Brown SAND; Some Gravel
		E 40' N	20-30" Gray CLAY, Some Gravel 30-46" Gray CLAY; Some Gravel and Cobble
	CB-22 Date 6/20/97	A	0-6" TOPSOIL 6-10" Gravelly CLAY 12-18" Gray CLAY; Some Cobbles 18-30" Hard Gray CLAY 30-42" Hard Gray CLAY
	CB-23 Date 6/20/97	A	0-3" TOPSOIL 3-12" Gravelly SAND 12-16" Gray CLAY 16-38" Very Hard Gray CLAY

*Note: Shaded rows indicate soil borings used to redefine the boundaries of cap repair areas.*

**DRAWING D1**  
**AREAS OF SUITABLE COVER MATERIAL**

**MAY BE VIEWED AT**

**U.S. EPA REGION 5  
77 W. JACKSON BLVD.  
CHICAGO, IL 60604-3590**